ENTOMOLOGY.—*Some scoliid wasps from tropical America.*[1] S. A. ROHWER, Bureau of Entomology, United States Department of Agriculture.

Recently I have received from Mr. Harold E. Box certain specimens of scoliids for identification. Among these was one species which was being introduced into Porto Rico to help in the control of white grubs. This species is new, and its description, along with some related forms and a species of *Elis*, is presented at this time to make the names available to authors who may be dealing with the economy and habits of these species.

## Genus CAMPSOMERIS Guérin

### GROUP TRICINCTAE

Some of the species here grouped around *tricincta* (Fabricius) were assigned by Saussure and Sichel[2] to their species group *plumipedis*. The other previously described species was characterized subsequent to Saussure's and Sichel's work. The species of the group *tricinctae* can be distinguished from *plumipes* and allies by the presence of dense red or reddish hair on the apical segments of the abdomen and the presence of a patch of hair on the wing membrane adjacent to the stigma. The following characters are common to all females of the group *tricinctae:*

Length 12–20 mm. Black; basal three or four tergites marked with yellow; head and thorax clothed with fulvous hair; thorax in some species marked with yellow; terminal abdominal segments clothed with fulvous or rufous hairs; wings infumate or subhyaline, costa usually darker and usually a dusky spot at end of radial cell (indistinct in *limosa*); area adjacent to stigma densely clothed with hair (less so in *limosa*).

Males of only two (*tricincta* and *fulvohirta*) of the species are in the National Collection. They may be assigned to this group by the dense red hair at the end of the abdomen.

### KEY TO THE FEMALES OF GROUP TRICINCTAE

1. Posterior aspect of propodeum sloping, not sharply separated from the dorsal aspect which is closely covered with distinct, large punctures; sternites all black.....2.
   Posterior aspect of propodeum perpendicular, sharply separated from dorsal aspect which is without *close* uniform punctures; sternites marked with yellow; area inclosed by first cubital and at least most of radial cells clothed with long hair; a dark spot beyond apex of radial cell....3.
2. Dorsal part of posterior aspect of propodeum closely and coarsely sculptured; yellow markings on tergites interrupted into spots; only anterior part of area inclosed by first cubital cell clothed with hair; no distinct dark spot beyond radial cell.....**limosa** (Burmeister).

[1] Received January 28, 1927.

[2] Cat. Species Gen. Scolia, 243. 1864.

Dorsal part of posterior aspect of propodeum smooth, almost without punctures; first three tergites with yellow bands; area inclosed by first cubital and radial cells clothed with brown hair; wing beyond radial cell dark brown.....**completa,** new species.

3. Disk of propodeum separated from the posterior aspect by a transverse ridge which is higher medianly; legs rufous; yellow markings of tergites forming continuous bands; pronotum without yellow spots **tricincta** (Fabricius).

No transverse ridge separating disk of propodeum from the posterior aspect; femora, at least, black; yellow markings of tergites usually forming lateral spots.....4.

4. Metanotum with a yellow spot and about two-thirds as long as dorsal aspect of propodeum; disk of propodeum with a lot of long bristle-like hairs; fourth tergite with a small yellow spot on each side **hesterae,** new species.

Metanotum black and about three-fourths as long as dorsal aspect of propodeum; disk of propodeum with dense appressed pile and without a bunch of bristle-like hairs; fourth tergite black....**fulvohirta** (Cresson).

### Campsomeris (Campsomeris) limosa (Burmeister)

*Scolia limosa* Burmeister, Abh. Naturf. Gesel. Halle, 1: (pt. 4) 28. 1853. Female and male.

*Elis limosa* (Burmeister) Saussure, Ann. Soc. Ent. France, ser. 3, 6: 246. 1858.

*Elis* (*Dielis*) *limosa* (Burmeister) Saussure and Sichel, Catal. Species Gen. Scolia, 250. 1864. (Judging from variation allowed these authors had more than one species included under this name).

All the specimens of this species before me are from Mexico and the following definite localities are included: Huipulco (August 29, 1922, E. G. Smyth); Coapa, D. F. (August 18, 1922, E. G. Smyth); Oaxaca (September, 1923, E. G. Smyth, Chittenden no. 13670); District Federal (L. Conradt). These specimens show but little variation in structure or color, and agree well with the original description. The absence of a distinct, infuscate spot beyond the apex of the radial cell helps to distinguish this species.

Turner[3] synonymizes (*mexicana* Cameron) = *rokitanskyi* Dalla Torre with *limosa*. Judging from the original description by Cameron this cannot be correct. Cameron very definitely states that the apical segments of the abdomen have black hairs, while in *limosa* the apical segments of the abdomen are clothed with red hair.

### Campsomeris (Campsomeris) completa, new species

This species comes nearest to *limosa* (Burmeister) but the differences given in the above key should make it easy to distinguish the two forms. The complete yellow bands on the tergites and general habitus suggests relationship with certain of the species which have the pubescence of the head and thorax pale and of the apical tergites black. The color of the pubescence is

[3] Ann. Mag. Nat. Hist. ser. 8, 8: 624. 1911.

distinctive and until the species of the other group have been carefully studied it is impossible to point out the relationships in this direction.

*Female.*—Length 16 mm. Clypeus gently convex, covered with coarse longitudinal wrinkles; frons, vertex and occiput smooth with only a few widely scattered punctures; basal joints of the flagellum spinose at apex beneath; pronotum with close, distinct punctures; mesoscutum with large, distinct, rather close punctures except over a small median area; scutellum smooth, with a median longitudinal impressed line and a few large punctures laterally; metanotum with large distinct punctures on basal portion, its median length about two-thirds the median length of dorsal aspect of propodeum; posterior face of propodeum sloping, not distinctly separated from the dorsal aspect, the median part smooth and with only a few scattered punctures, the lateral parts with small punctures dorsally; dorsal aspect of propodeum with uniform, distinct, close punctures; tergites dull, with a few scattered setigerous punctures; sternites polished, with scattered setigerous punctures which are arranged in two rows on the third and are more numerous and closer on the base of second and apex of fourth; apical margin of radial cell oblique above, arched outwardly below and exceeding the second cubital cell. Black; first three tergites with transverse apical yellow bands, that on the first slightly indentate medianly, that on the second with two broad forward projections laterally, that on the third broadly produced forward medianly; tegulae, tarsi and spines on tibiae rufo-piceous; head, dorsum of thorax and apical two abdominal segments with long ferruginous hair; sides of thorax, femora and basal abdominal segments with long gray hair; appressed pile gray, not abundant, occurring only on sides of thorax and posterior aspect of propodeum. Wings dusky hyaline, costal margin of fore wings ferruginous basally and followed by an elongate brown area beyond the radial cell; area inclosed by first cubital, radial and part of second cubital and median cells covered with brown hair.

One paratype shows a narrow yellow band on the fourth tergite and another is only 14 mm. long. Otherwise there is very little variation in the specimens in the type series.

*Type locality.*—Victoria, Mexico.

*Other localities.*—Cerro, Mexico, and Guanajuato, Mexico.

Described from three (one type) females from the type locality collected March 16, 1922, by T. C. Barber and T. E. Holloway; from one female from Cerro, collected October 28, 1922, by E. G. Smyth; and one female from Guanajuato.

*Type* and four *paratypes.*—Cat. no. 40167 U. S. N. M.

### Campsomeris (Campsomeris) tricincta (Fabricius)

*Tiphia tricincta* Fabricius, Systema Entom., 354. 1775; Spec. Insect. **1**: 451. 1781; Mant. Insect. **1**: 280. 1787; Entom. Systema, **2**: 227. 1793; Systema Piez. 235. 1804.

*Elis* (*Campsomeris*) *tricincta* (Fabricius) Saussure, Ann. Soc. Ent. France, ser. 3, **6**: 246 and 248. 1858. Female.

*Elis* (*Dielis*) *tricincta* (Fabricius) Saussure and Sichel, Cat. Species gen. Scolia, 248. 1864. Female and male. (Probably only for those specimens from the West Indies).

*Campsomeris* (*Campsomeris*) *pyrura* Rohwer, Proc. U. S. Nat. Mus. **49**: (no. 2105), 235. 1915. Female and male.

There seems to be nothing in the original Fabrician description of this species, or any of the subsequent descriptions by the same author, to justify the assumption of Saussure that it was described in the male. While the original description applies fairly well to the male, the male has more yellow markings on the thorax than is called for. The description does apply very exactly to the female and the original mention that the first joint of the antenna is ferruginous makes the identity nearly certain. In fact the mention of this character convinced me that the specimens to which I gave the name *pyrura* were really *tricincta*. There seems no reason to doubt the above synonymy.

The original description gives the locality as, "Habitat in America Dom. v. Rohr." and Saussure and others have considered that the species occurred in a number of the islands of the West Indies as well as in Mexico. It may be that the species does occur in many islands of the West Indies and in Mexico, but it seems more probable that in recording this distribution authors have confused other forms with *tricincta*. I have seen this species from the following localities:—PORTO RICO: Mayaguez (types of *pyrura*), Mamayes Santa Rita, San Juan, Maricao, Arecibo, Adjuntas, Manati, Aibonito, Naguabo, Cayey, and Barros. HAITI: Port au Prince.

### Campsomeris (CAMPSOMERIS) hesterae, new species

It seems probable that this species will be found in some collections under the name *limosa* (Burmeister) as the variation permitted for *limosa* by Saussure indicates they had more than one species under that name. Besides differing from *limosa* by the characters mentioned in the above key, the species may be separated from *limosa* by the distinct black mark which occurs in the fore wing beyond the end of the radial cell. This new species is more closely allied to the West Indian *fulvohirta* (Cresson) and may be found to vary so as to be distinguished from Cresson's species with difficulty. The material before me can be easily distinguished by the characters given in the foregoing key.

*Female.*—Length 18 mm. Head smooth with only a few scattered punctures, these closer on the vertex; clypeus convex, smooth, with punctures only basally; apical joint of antenna shorter than the two preceding, truncate apically; pronotum with close, distinct punctures; mesoscutum smooth medianly, laterally with close, distinct punctures; scutellum smooth, with a few large, distinct punctures laterally and basally; metanotum with distinct punctures along basal margin, two-thirds as long medianly as the median dorsal aspect of the propodeum; propodeum truncate posteriorly, the posterior aspect smooth, perpendicular and distinctly differentiated from the dorsal aspect; dorsal aspect of propodeum with close, uniform, rather large punctures, not produced medianly or separated from the posterior aspect by a carina or ridge; tergites dull, with a few scattered setigerous punctures; sternites shining, smooth, the second with many rather close punctures basally, remaining sternites with scattered setigerous punctures; radial cell oblique apically and exceeding the second cubital cell. Black; median spot on metanotum, lateral spots on first four tergites (those on second and third

narrower laterally), apices of anterior femora beneath and bases of anterior tibiae exteriorly yellow; tegulae, tibiae and tarsi rufo-ferruginous; head, dorsum of thorax, apical margins of tergites, all of fifth and sixth tergites, the three apical sternites and tibiae and tarsi clothed with long ferruginous hair; sides, venter of thorax and dorsal aspect of propodeum with fine appressed, pale golden pile; hairs of sides of thorax, femora, base of first tergite and basal sternites pale yellow. Wings dusky hyaline, costal margin ferruginous basally, beyond the radial cell with an elongate subviolaceous spot; area inclosed by the first cubital and radial cells clothed with long dark brown hair.

The paratype from Guatemala is 20 mm. long. One paratype from Venezuela is 17 mm. long. Another paratype from Venezuela is 14 mm. long, has two small yellow spots on the scutellum and two yellow spots on the pronotum. A paratype from "Ecua" is 22 mm. long and has the spots on the first three tergites connected forming complete bands, those on tergites two and three being deeply emarginate medianly.

*Type locality.*—Tucuche, Trinidad, British West Indies.

*Other localities.*—Cayuga, Guatemala; Las Adjuntas, Venezuela; "Ecua" (Ecuador).

Described from two females (one type) from the type locality collected May 31, 1925, by Hester M. Rohwer; one female from Guatemala collected June, 1915, by W. Schaus; three females from Venezuela collected June 29 and 30, 1926, and July 12, 1926, by H. E. Box; and one female from "Ecua" from C. F. Baker collection.

*Type* and five *paratypes.*—Cat. no. 40168 U. S. N. M.

One paratype returned to H. E. Box.

The material collected by Mr. Box was sent under his number "E" and accompanied by a note stating that the species had been collected at Guatire (300 meters), Venezuela; that it frequented flowers of *Clibadium, Melochia* and (?) *Wedelia*; that it had been introduced into Porto Rico and had arrived there alive and oviposited regularly on grubs of *Lachnosterna portoricensis.*

### Campsomeris (Campsomeris) fulvhirta (Cresson)

*Scolia* (*Elis*) *fulvohirta* Cresson, Proc. Ent. Soc. Phila., 4: 119. 1865. Female and male.

In two of the females from Santiago, Cuba, before me the pronotum is entirely black. Three females from Santiago, Cuba; one female and one male from Taco Taco, Cuba, April 1–6, 1922. The last two mentioned specimens agree almost exactly with the original description. Also one male from Portland, Jamaica, determined by W. J. Fox.

Two females collected at Miami, Florida, May, 1917, by W. M. Mann are assigned here. They differ from the Cuba specimens in having the yellow spots on the tergites somewhat smaller and in having the third sternite black.

## Genus Elis Fabricius

### **Elis caracasana,** new species

The species is probably more closely allied to the species *toluca* (Cameron), *centralis* (Cameron) and *parvimaculata* (Cameron), but it differs from these species in having the abdomen black except for a yellow band on the first tergite. It also resembles *montivaga* (Cameron), but besides the difference in color of the abdomen, it may be distinguished from Cameron's description in

having the basal median area of the propodeum not roughened. The large spines on the legs are whitish instead of being rufous. The species is rather characteristic and may readily be recognized by its dark color, the infuscated costal margin of the wing and the coarse sculpture of the frons.

*Female.*—Length 17.5 mm. Clypeus with large, irregular, sometimes confluent punctures, anterior margin almost without sculpture and nearly truncate; frons with coarse, irregular, sometimes confluent punctures and with distinct, deep, impressed line from between bases of antennae to almost the anterior ocellus; area surrounding the ocelli and vertex shining, with large, scattered punctures; distinct transverse groove behind posterior ocelli; posterior orbits smooth but with a few punctures along the hind margin; dorsal aspect of the pronotum opaque, granular and in addition with large, irregular, sometimes confluent punctures; mesoscutum bipunctate, the large punctures widely distributed and in the posterior part of the median area they are elongate; scutellum unipunctate with large, scattered punctures; dorsal aspect of the propodeum opaque, finely granular, with no distinct area set off by large punctures; posteriorly the dorsal aspect is irregularly wrinkled and this irregular wrinkling extends onto the sides of the posterior aspect; posterior aspect with the median area with dorsad-ventrad aciculations; mesepisternum with large, close, distinct punctures; sides of the propodeum with oblique rugae and with the areas between the rugae aciculate; first tergite with small, separate punctures; the second, third and fourth tergites with the punctures slightly larger and closely crowded together; the fifth tergite bipunctate but the small punctures rather inconspicuous and the larger punctures not much larger than those on the posterior margin of the fourth tergite; pygidium longitudinally striate for its entire length; sternites with large, scattered punctures near their apical margins; inner calcarium of the posterior tibia strongly curved basally and with a prominent tooth at the end of the curved portion; fourth abscissa of the cubitus subequal in length with the second intercubitus and shorter than the third abscissa of the radius, but slightly longer than the fifth abscissa of the cubitus. Black; head, thorax and legs and ventral part of abdomen with scattered, glistening white hairs; the ventral part of the anterior face of the first tergite with a patch of long white hair; first and second tergites with a faint violaceous reflection; median posterior spot on the scutellum, metanotum medianly, a median longitudinal line on dorsal aspect of propodeum, lateral posterior angles of propodeum, oblique spot on side of propodeum, a transverse band on the first tergite medianly (dilated at the sides) yellow; wings subhyaline, the costal margin deeply infuscated and with a violaceous tinge; venation black.

Paratypes show the species may vary in size from 18 to 12 mm., that the oblique yellow spot on the sides of the propodeum may be wanting, and that there may be elongate yellow spots on the sides of the third tergite basally.

Described from eight females (one type) collected by Harold E. Box in July, 1926, at Las Adjuntas, near Caracas, Venezuela, 960 meters above sea level, on flowers of *Clibadium surinamense* and *Melochia caracasana*.

*Type and paratypes.*—Cat. no. 40239 U. S. N. M.

One paratype returned to sender.